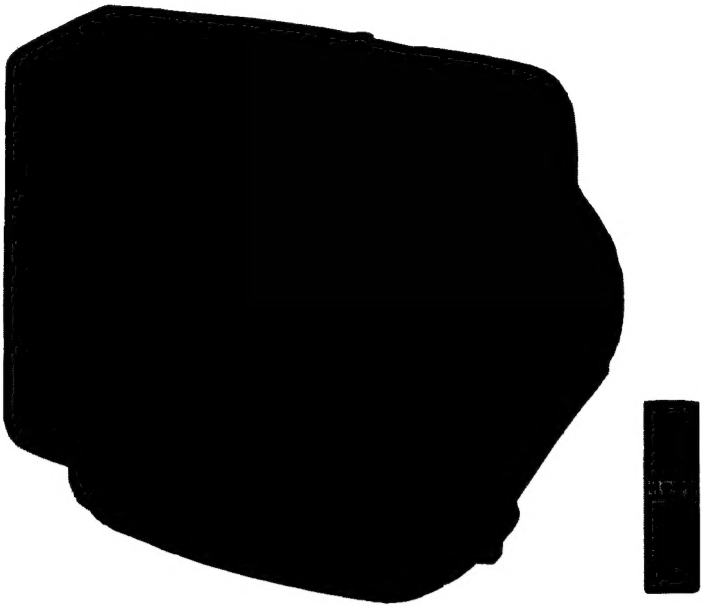


SERVICE MANUAL

BE-2A CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KX-1410QM	RM-841	AEP	SCC-G04-AA	KX-2110QM	RM-841	AEP	SCC-G04-BA



TRINITRON® COLOR TV
SONY®

SPECIFICATIONS

[KX-1410QM]

Picture tube Black Trinitron tube
Approx. 36 cm [14 inches]
(Approx. 33.7 cm picture measured diagonally)
90° degree deflection

[KX-2110QM]

Picture tube HI-Black Trinitron tube
Approx. 55 cm [21 inches]
(Approx. 51 cm picture measured diagonally)
100° degree deflection

Inputs ♂- 21-pin connector: CENELEC standard
RGB input.

Outputs Audio In : Phono jack
Headphones jack: minijack
BNC connector.

Sound output Video loop-through output: BNC connector.
4W (Music)

Power
consumption

45Wh [KX-1410QM]

65Wh [KX-2110QM]

Dimensions

Approx. 359x345x409 mm (w/h/d)
[KX-1410QM]

Approx. 513x487x475 mm (w/h/d)
[KX-2110QM]

Weight

Approx. 10.5 kg [KX-1410QM]

Approx. 24kg [KX-2110QM]

[RM-841]

Remote control system infrared control

Power requirements 1.5V dc
1 battery IEC designation
R6 (size AA)

Dimensions Approx. 48x200.5x18 mm (w/h/d)

Weight Approx. 100g including batteries

Supplied accessories RM-841 Remote Commander (1)
IEC designation R6 battery (1)

Design and specifications are subject to change without notice.

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED WITH  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.


ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

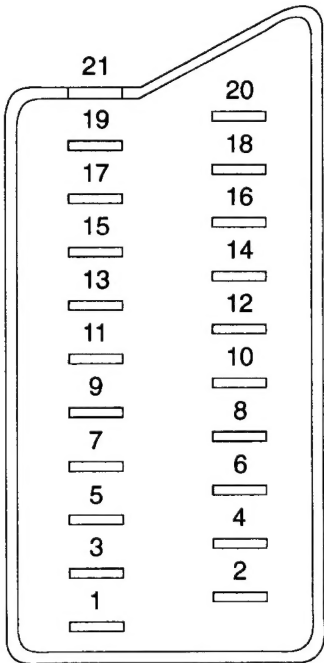
ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE.
LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPSANTS RELATIFS A LA SECURITE. !!

LES COMPOSANTS IDENTIFES PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REM-PLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLIMENTS PUBLIES PAR SONY.

1-1. 21 PIN CONNECTOR



21 pin connector (1 G)

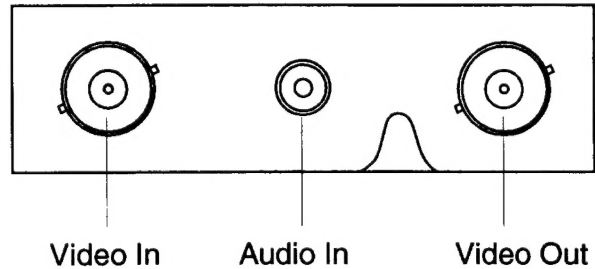
Pin No		Signal	Signal level
1	●	Open	
2	○	Audio input	Standard level:0.5Vrms Input impedance:More than 10kohms*
3	●	Open	
4	○	Ground (audio)	
5	○	Ground (blue)	
6	○	Audio input	Standard level:0.5Vrms Input impedance:More than 10kohms*
7	○	Blue input	0.7V±3dB, 75ohms, positive
8	●	Open	
9	○	Ground (green)	
10	●	Open	
11	○	Green	Green signal:0.7V±3dB. 75ohms, positive
12	●	Open	
13	○	Ground(red)	
14	○	Ground (blanking)	
15	○	Red input	0.7V±3dB, 75ohms, positive
16	○	Blanking input (Ys signal)	High state (1—3V) Low state (0—0.4V) Input impedance:75ohms
17	○	Ground (video output)	
18	○	Ground (video input)	
19	●	Open	
20	○	Video input	1V±3dB, 75ohms, positive Sync:0.3V(—3, +10dB)
21	○	Common ground (plug, shield)	

○ connected

● unconnected (open)

* At 20 Hz—20kHz

REAR SOCKETS

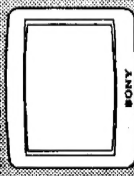


Video input	1V±3dB, 75ohms, positive Sync:0.3V(—3, +10dB)
Audio input	Standard level:0.5Vrms Input impedance:More than 10kohms
Video Output	1V±3dB, 75ohms, positive Sync:0.3V(—3, +10dB)

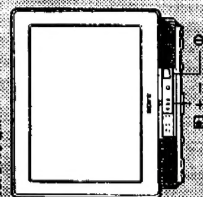
1-2. Basic Monitor Operation

This section introduces you to the basic control functions which are available on the Monitor and on the Remote Commander.

RM-1410 QM



RM-2110 QM



How to turn the monitor on and off

Action	Result
Turning on Press the power switch ① on the set.	The monitor will turn on. Note: If the screen remains blank, the monitor may be in the standby mode. In this case press .
Turning off A Temporarily Press .	The monitor is now in standby mode. Press or any number button to return to monitor mode.
B Completely Press the power switch .	The monitor will turn off.

How to adjust the volume

Action	Result
Press + or -.	The volume markers will appear and the volume is adjusted accordingly.

On the set:
Press until the is displayed, then adjust with the +/- buttons.

1-3. Advanced monitor operation

Instructions shown here are partial excerpts from the Instruction Manual. The pages of the Instruction Manual are included here in their original state.

This section introduces you to the advanced control functions which are available on the Remote Commander.

How to adjust the picture

Although the picture has been adjusted at the factory, you might want to adjust it to your own taste. For modifications please follow the steps:

Action	Result
1 Press button repeatedly, until the desired item is displayed (contrast, colour intensity, brightness, hue).	The symbol and the level indicator for the selected item is displayed.
2 Press button + or -.	The picture item is adjusted.

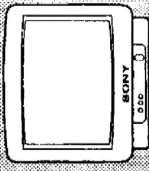
On the set:
Press button repeatedly in order to select the desired item, then adjust with button + or -.

To return to factory set levels:
Press the button.

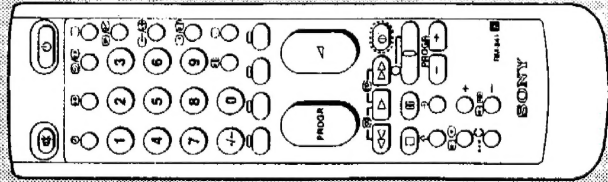
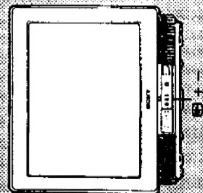
Other functions

How to	Action	To resume normal picture/sound
Display the input mode.	Press .	Press again.
Mute the sound.	Press .	Press again.

RM-1410 QM



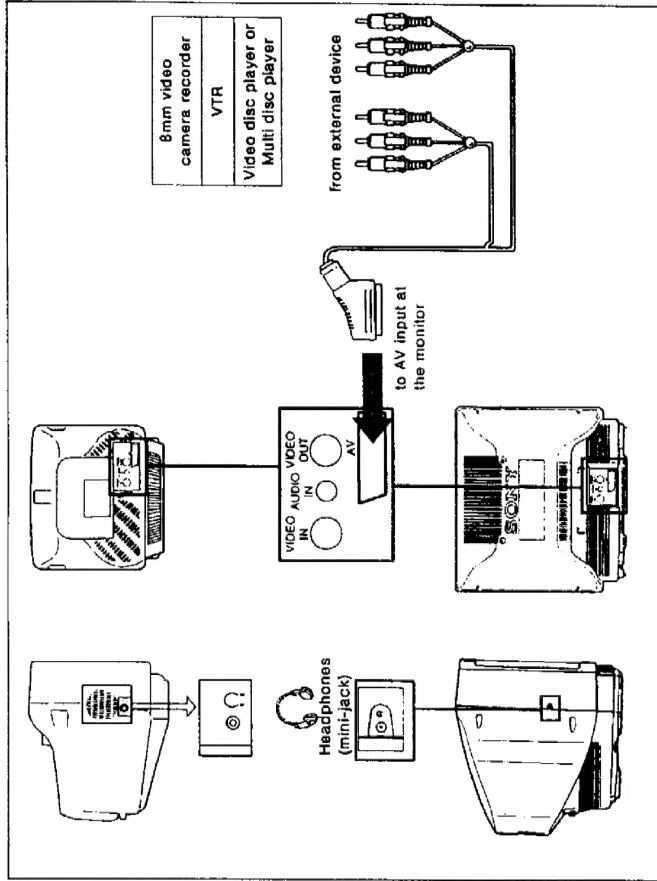
RM-2110 QM



Optional connections/operations

1-4.

How to connect additional Audio/video equipment



— 6 —

How to view the Video input signal

The monitor has input mode for audio/video signals and RGB signals via the 21-pin Euro connector or audio/video signals via the connectors at the rear.

Note

- When you have Audio/video equipment connected to both the A/V connectors and the 21-pin terminal, make sure that both are not switched on at the same time, otherwise the picture could be incomplete.
- In case of sound and picture distortions move the VTR away from the monitor.

Additional information

1-5.

Specifications

	KC-1410 QM	KC-2110 QM
Colour system	PAL, SECAM, NTSC 3.58/4.43	
Picture tube	BLACK TRINITRON approx. 38cm (14 inches) approx. 51cm picture measured diagonally 90° deflection	HI-BLACK TRINITRON approx. 55cm (21 inches) approx. 51cm picture measured diagonally 100° deflection
Inputs	21-pin connector: CENELEC standard RGB input VIDEO IN: BNC connector 1V-p sync negative AUDIO IN: Phone jack 600 mV rms	
Outputs	Headphones Jack: mini-jack BNC connector 75Ω terminated video loop-through output: BNC connector 75Ω terminated	
Sound output	4W (music)	
Power consumption	45W	55W
Dimensions (width)	Approx. 359 x 346 x 405mm	Approx. 513 x 487 x 475mm
Weight	Approx. 10.5kg	Approx. 24kg
Supplied accessories	RM-841 Remote Commander (1) IEC designation RB battery (1)	

Design and specifications are subject to change without notice.

Pin assignment



AV connector (21-pin)

Pin No.	Signal	Description
1	NC	
2	Audio input B (right)	Standard level: 0.5 Vrms Input impedance: More than 10 k ohms*
3	NC	
4	GND for audio	GND
5	GND for blue input	GND
6	Audio input A (left)	Standard level: 0.5 Vrms Input impedance: More than 10 k ohms*
7	Blue input	0.7 ± 3 dB, 75 ohms
8	NC	

Pin No.	Signal	Description
9	GND for green input	GND
10	NC	
11	Green input	(Same as Pin 7)
12	NC	
13	GND for red input	GND
14	GND for blanking input	GND
15	Red input	(Same as Pin 7)
16	Blanking input	High state (1-3 V) Low state (0-0.4 V) Input impedance: 75 ohms
17	GND	GND
18	GND for video input	GND
19	NC	
20	Video input	1 V ± 3 dB, 75 ohms Sync: 0.3 V (± 3 dB)
21	Common GND (plug, shield)	GND

* at 20kHz - 20kHz

Design and specifications subject to change without notice.

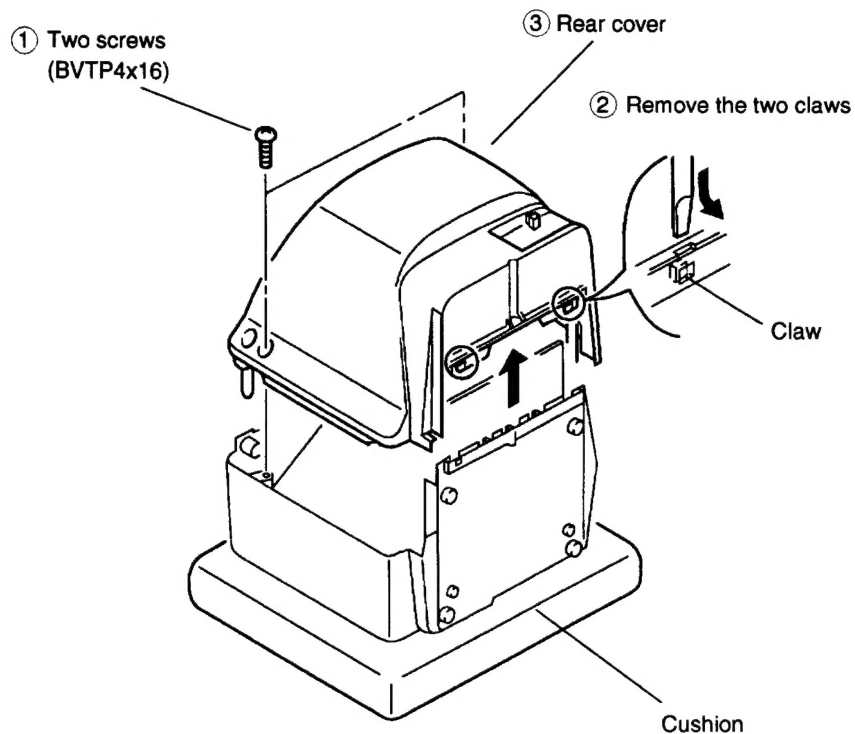
40

17

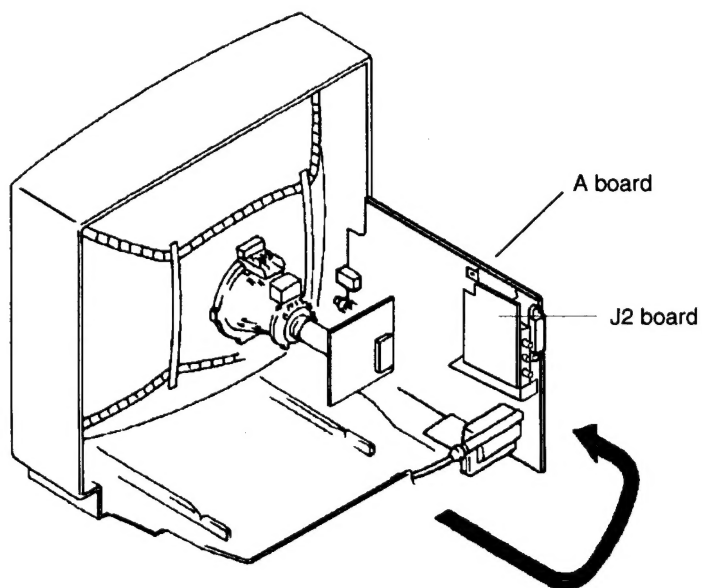
SECTION 2 DISASSEMBLY

[KX-1410QM]

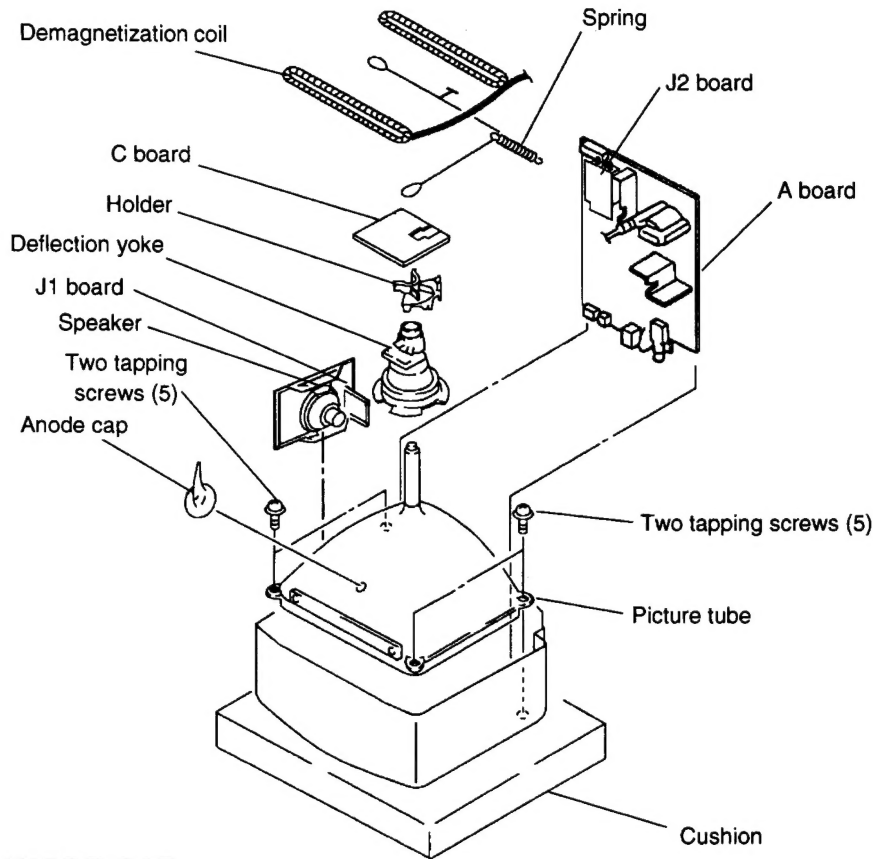
2-1. REAR COVER REMOVAL



2-2 SERVICE POSITION



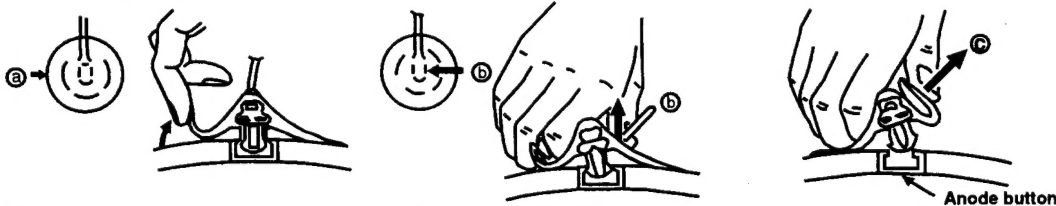
2-3. PICTURE TUBE REMOVAL [KX-1410QM]



• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis.
CRT shield or carbon paint on the CRT, after removing the anode.

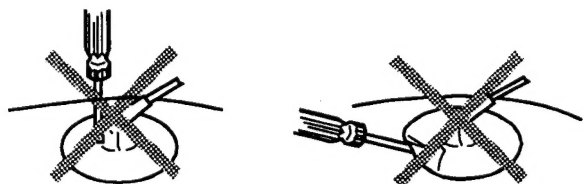
• REMOVING PROCEDURES.



- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ③

• HOW TO HANDLE AN ANODE-CAP

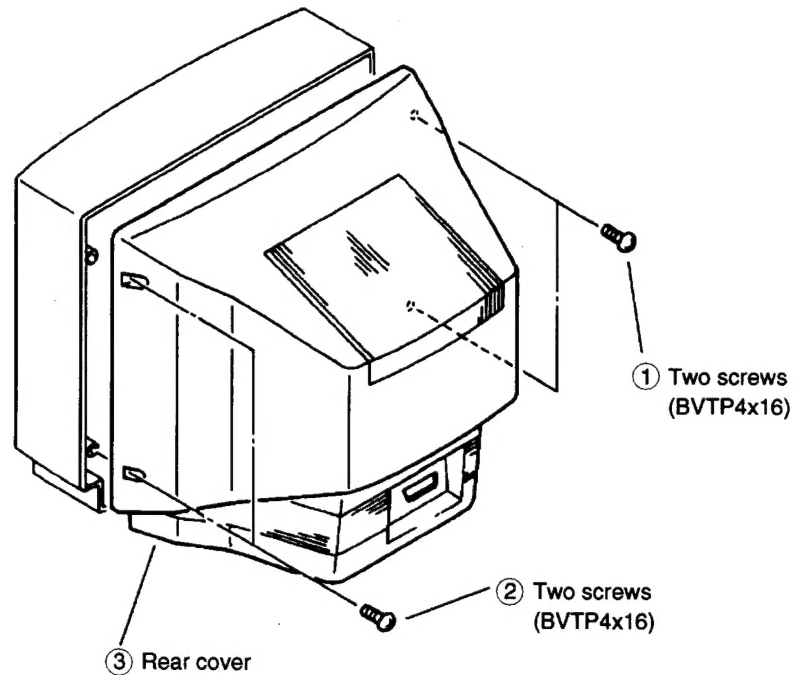
- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardy not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardy !
The shatter-hook terminal will stick out or damage the rubber.



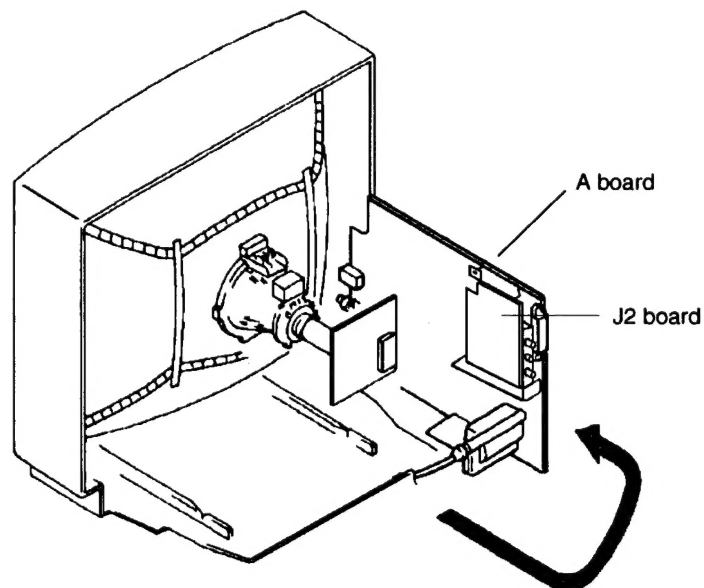
SECTION 2 DISASSEMBLY

[KX-2110QM]

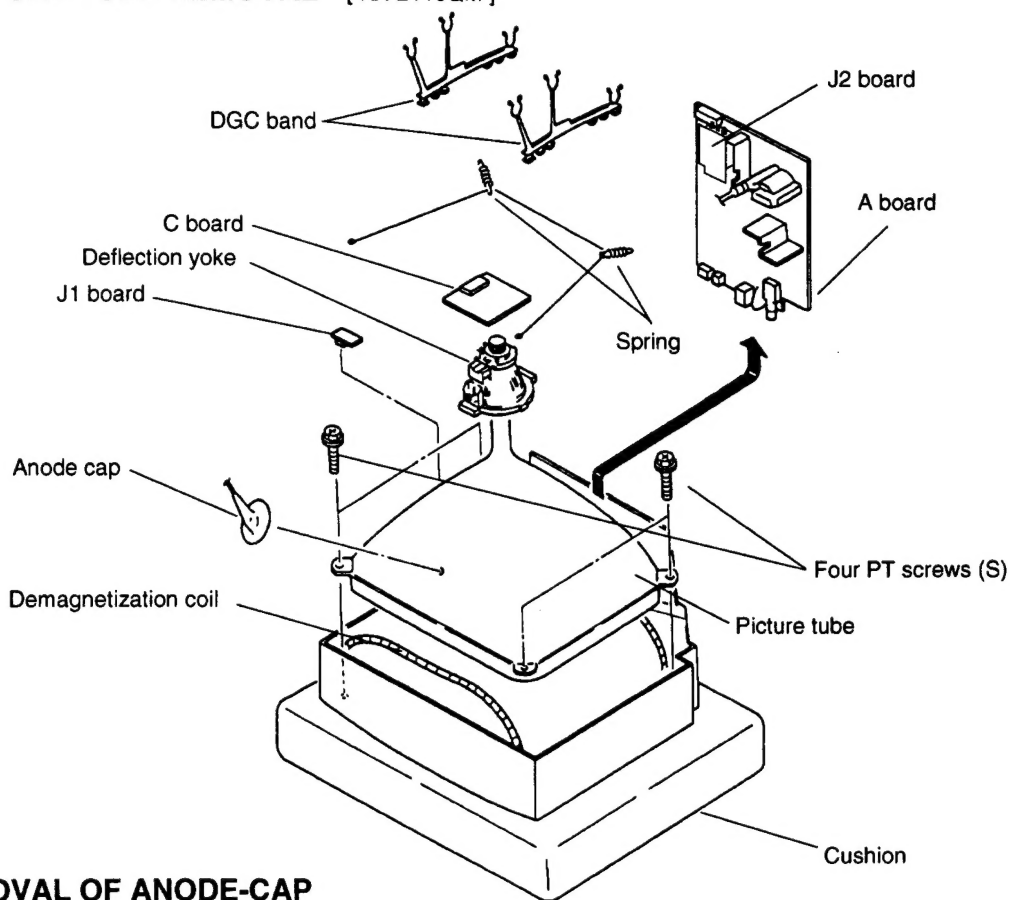
2-4. REAR COVER REMOVAL



2-5 SERVICE POSITION



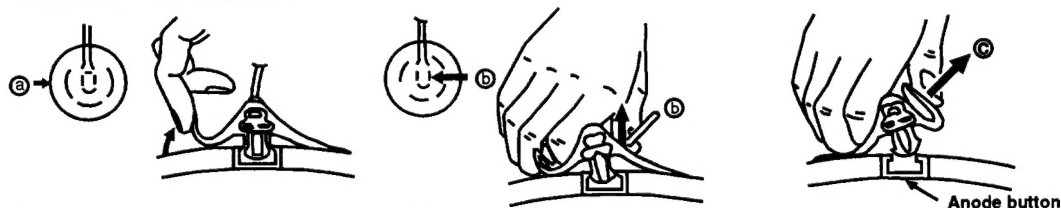
2-6. PICTURE TUBE REMOVAL [KX-2110QM]



• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis.
CRT shield or carbon paint on the CRT, after removing the anode.

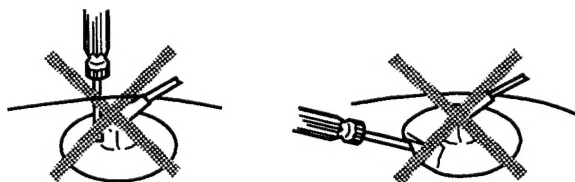
• REMOVING PROCEDURES.



- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ③

• HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or damage the rubber.



SECTION 3 SET-UP ADJUSTMENTS

[KX-1410QM]

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch below should be set as follows unless otherwise noted:

● CONTRAST control 80%
(or Normal by commander)

✱ BRIGHTNESS control 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3-1. BEAM LANDING

Demagnetize with a degausser.

1. Input a raster signal with the pattern generator.

CONTRAST	} normal
BRIGHTNESS	
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly.
(Fig. 3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that entire screen becomes red. (Fig. 3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig. 3-4)

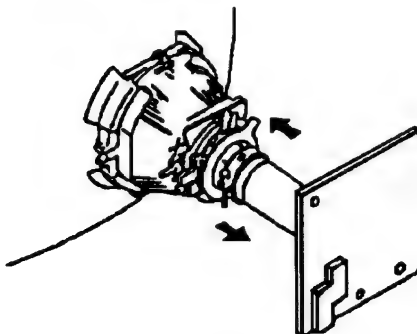


Fig. 3-1

Fig. 3-2

Purity control



Fig. 3-3

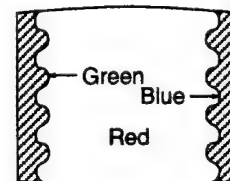
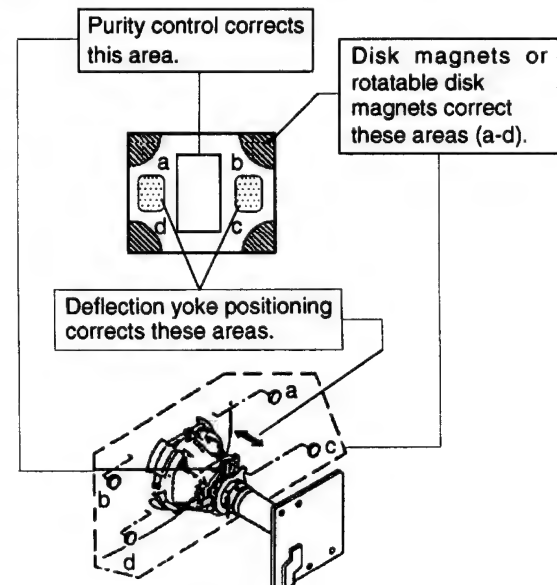


Fig. 3-4

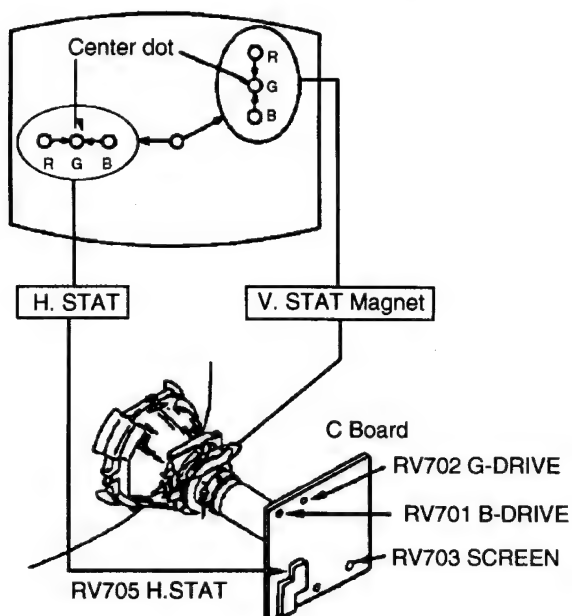


3-2. CONVERGENCE

Preparation:

- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

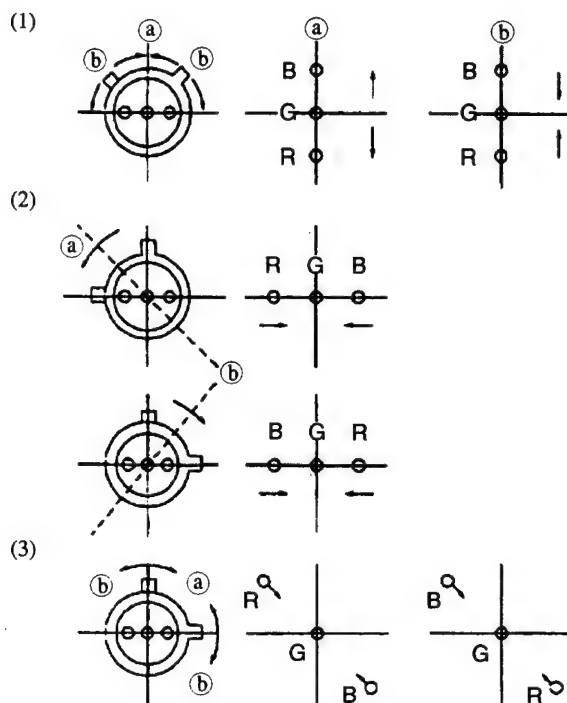
(1) Horizontal and Vertical Static Convergence



1. Adjust H.STAT VR to converge red, green and blue dots in the center of the screen. (Horizontal movement)
 2. Adjust V.STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
 3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.

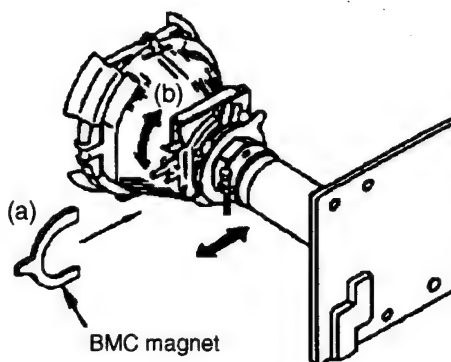


4. When the V.STAT magnet is moved in the direction of arrows (a) and (b) the, red, green and blue dots move as shown below.



If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence. Rotate BMC magnet (b) to correct insufficient V.static convergence. In either case, repeat Beam Landing Adjustment.

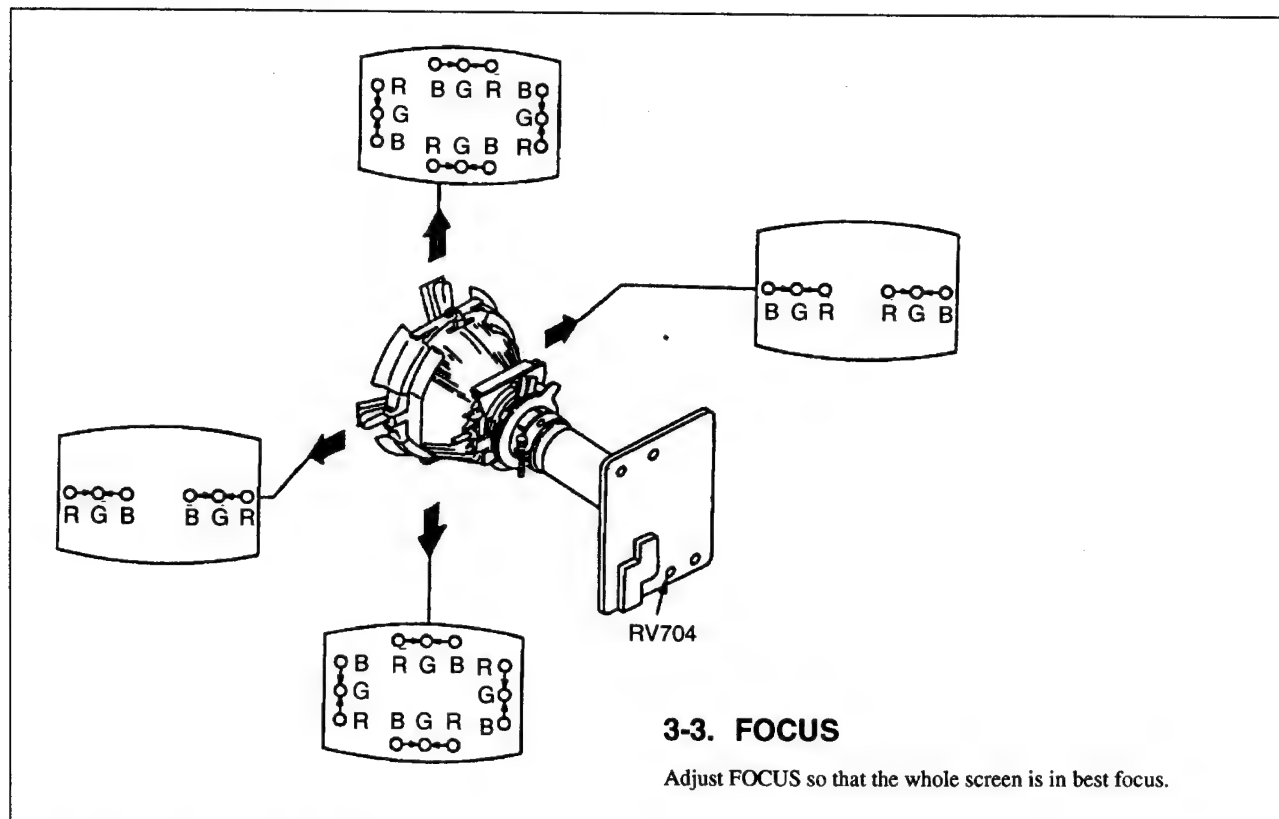


(2) Dynamic Convergence Adjustment

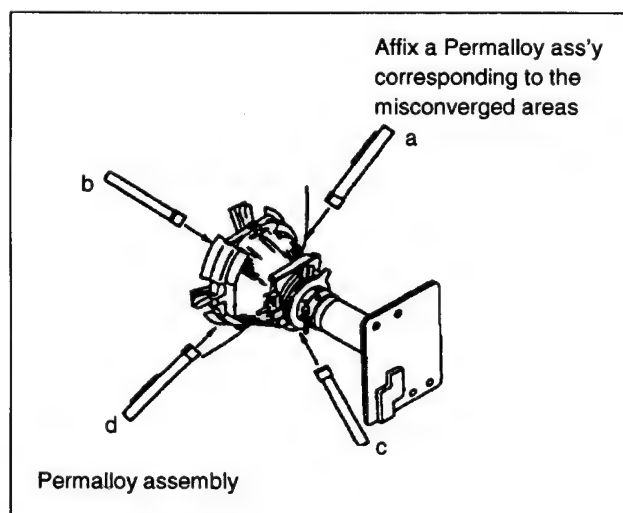
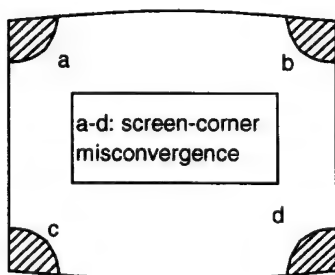
Preparation:

- Before starting perform Horizontal and Vertical static convergence Adjustment.
- 1. Slightly loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.

- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



(3) Screen-corner Convergence



SECTION 3 SET-UP ADJUSTMENTS

[KX-2110QM]

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch below should be set as follows unless otherwise noted:

● CONTRAST control 80%
(or Normal by commander)

☆ BRIGHTNESS control 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3-4. BEAM LANDING

Demagnetize with a degausser.

1. Input a raster signal with the pattern generator.
CONTRAST } normal
BRIGHTNESS }
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly.
(Fig. 3-5 - 3-7)
4. Move the deflection yoke forward, and adjust so that entire screen becomes red. (Fig. 3-5)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig. 3-8)

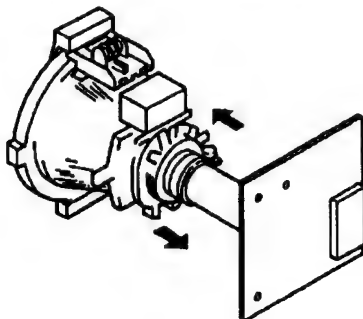


Fig. 3-5

Fig. 3-6

Purity control



Fig. 3-7

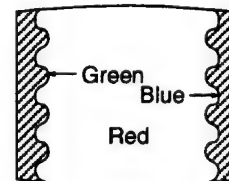
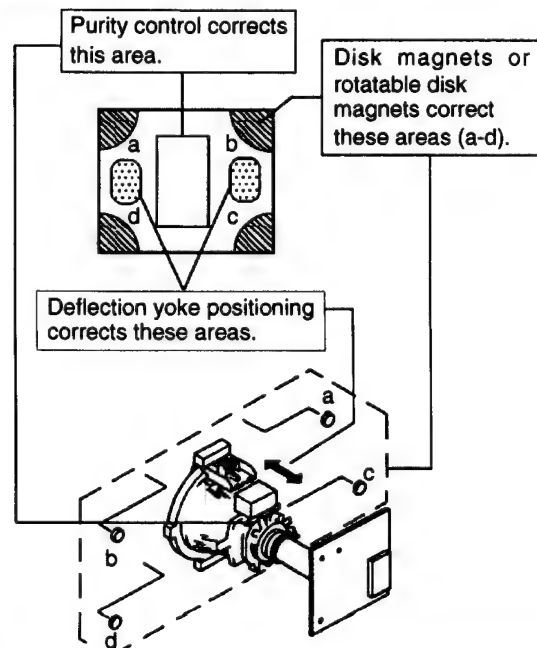


Fig. 3-8

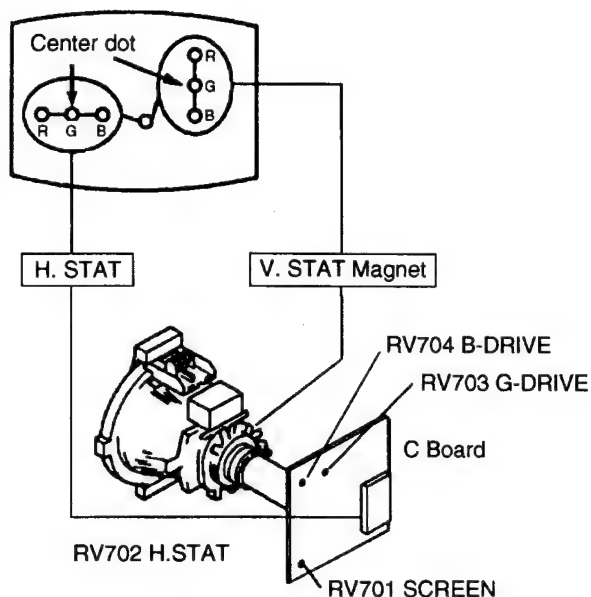


3-5. CONVERGENCE

Preparation:

- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

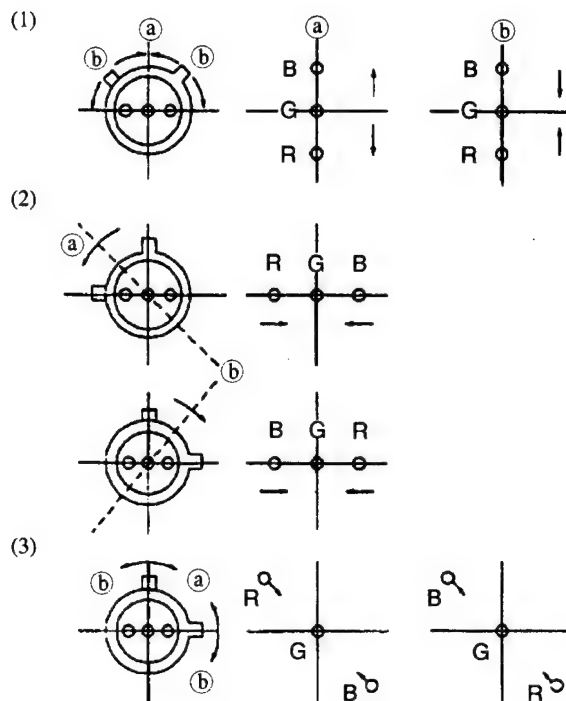
(1) Horizontal and Vertical Static Convergence



1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen. (Horizontal movement)
 2. Adjust V.STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
 3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.

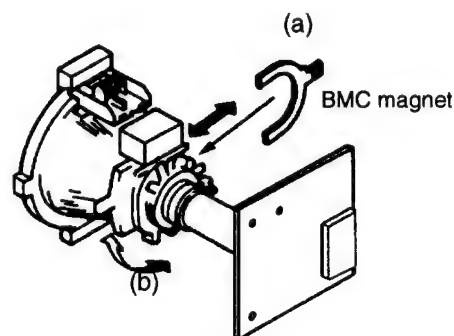


4. When the V.STAT magnet is moved in the direction of arrows (a) and (b) the, red, green and blue dots move as shown below.



If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence. Rotate BMC magnet (b) to correct insufficient V.static convergence. In either case, repeat Beam Landing Adjustment.



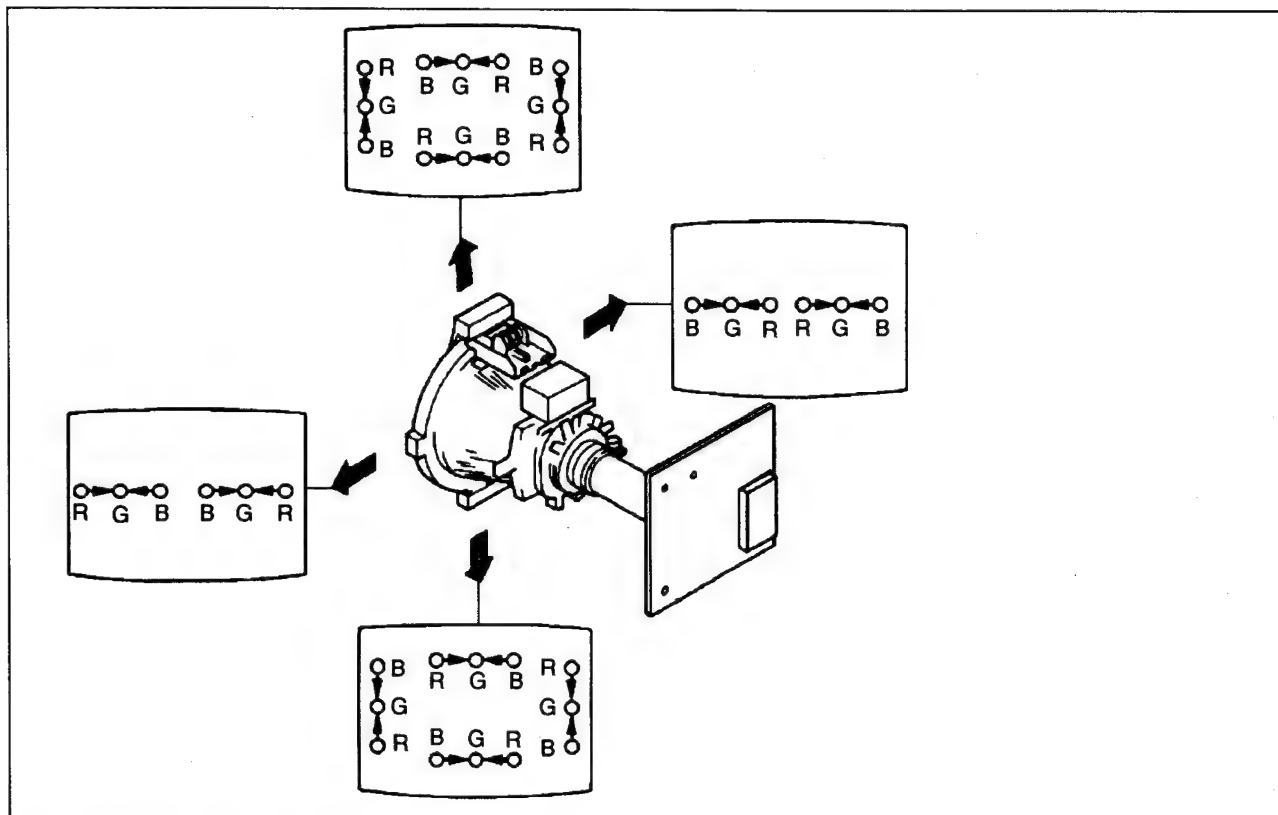
(2) Dynamic Convergence Adjustment

Preparation:

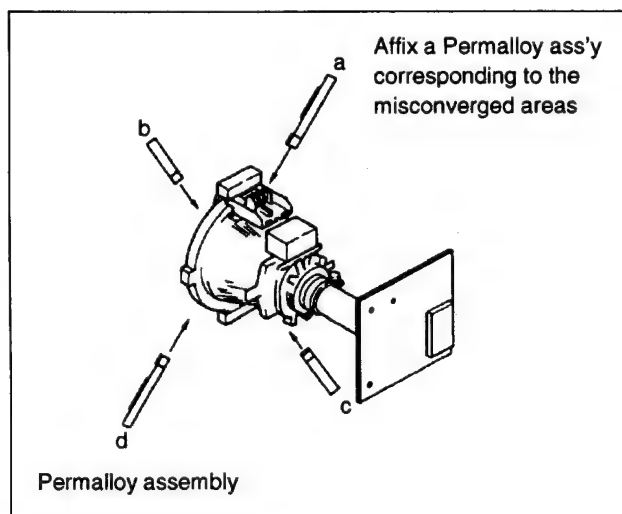
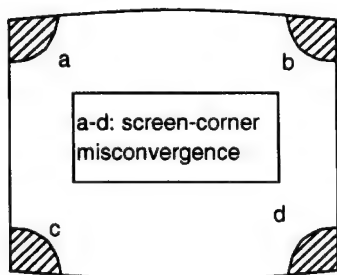
- Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.

3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

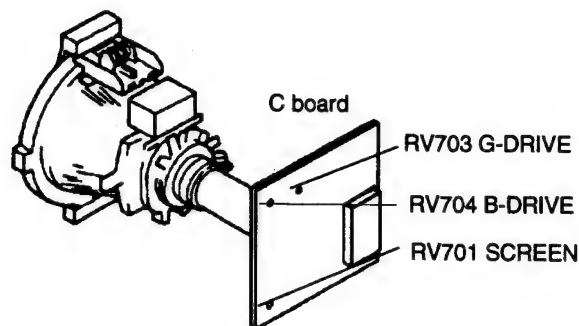


(3) Screen-corner Convergence

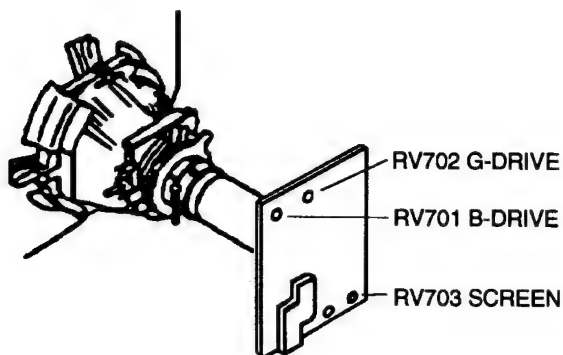


3-6. SCREEN (G2) and WHITE BALANCE

[KX-2110QM]

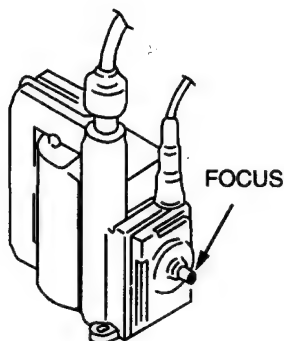


[KX-1410QM]



3-7. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



Screen (G2) setting

1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 140V DC to the cathodes of R, G and B from an external power source.
4. While watching the picture, adjust the G2 volume (RV703 14", RV701 21") immediately before fly-back line disappears.

White Balance Adjustment

1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.

[KX-1410QM]

3. Adjust the following using RV701 (B DRIVE) and RV702 (G DRIVE).

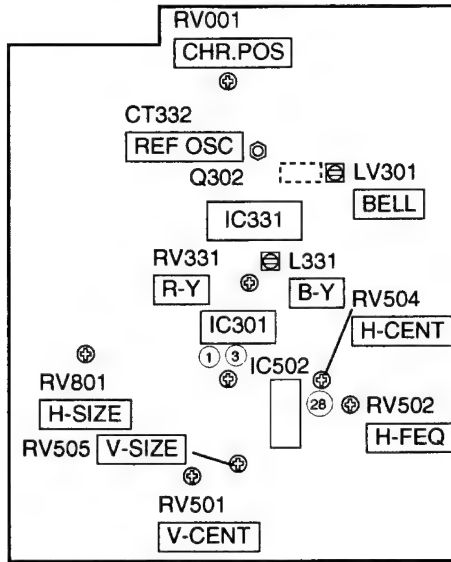
[KX-2110QM]

3. Adjust the following using RV704 (B DRIVE) and RV703 (G DRIVE).

In the following adjustments, the CONTRAST, COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

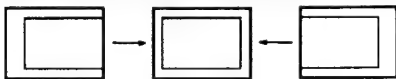
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

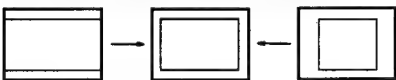


A-BOARD
- Component side -

RV504 H.CENT (HORIZONTAL CENTER)



RV801 H.SIZE (HORIZONTAL SIZE)



RV501 V.CENT (VERTICAL CENTER)



RV505 V.SIZE (VERTICAL SIZE)

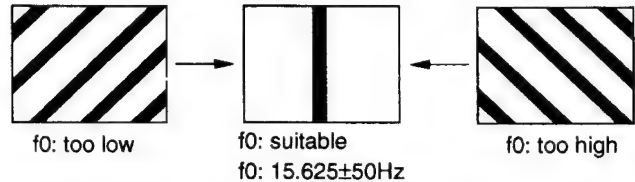


REF OSC 7.16 MHz Adjustment (CT 331)

1. Input an NTSC COLOR BAR pattern.
2. Short circuit between pin ⑰ of IC 331 and ground.
3. Adjust CT 331 to obtain color synchronization.
4. Remove the jumper wire from IC 331.

H.FREQ Adjustment (RV502)

1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100μ/16 V) between pin ⑳ and GND of IC502.
2. Adjust RV502 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.

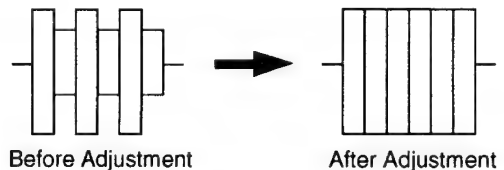


REF OSC 8.8 MHz Adjustment (CT332)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin ⑰ of IC331 and ground.
3. Adjust CT332 to obtain color synchronization.
4. Remove the jumper wire from IC331.

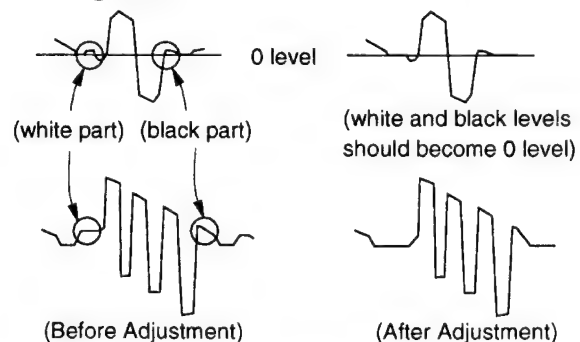
BELL FILTER Adjustment (LV301)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q303 emitter.
3. Adjust LV301 so that waveform becomes flat.



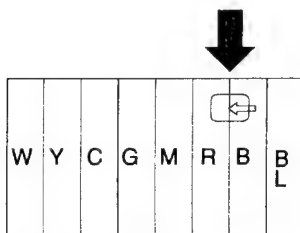
SECAM DISCRI Adjustment (RV331 R-Y L331 B-Y)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin ① of IC331.
3. Adjust RV331 (R-Y) so that white and black parts of the waveform of pin ① becomes 0 level.
4. Connect an oscilloscope to pin ③ of IC331.
5. Adjust L331 (B-Y) so that white and black parts of the waveform of pin ③ becomes 0 level.

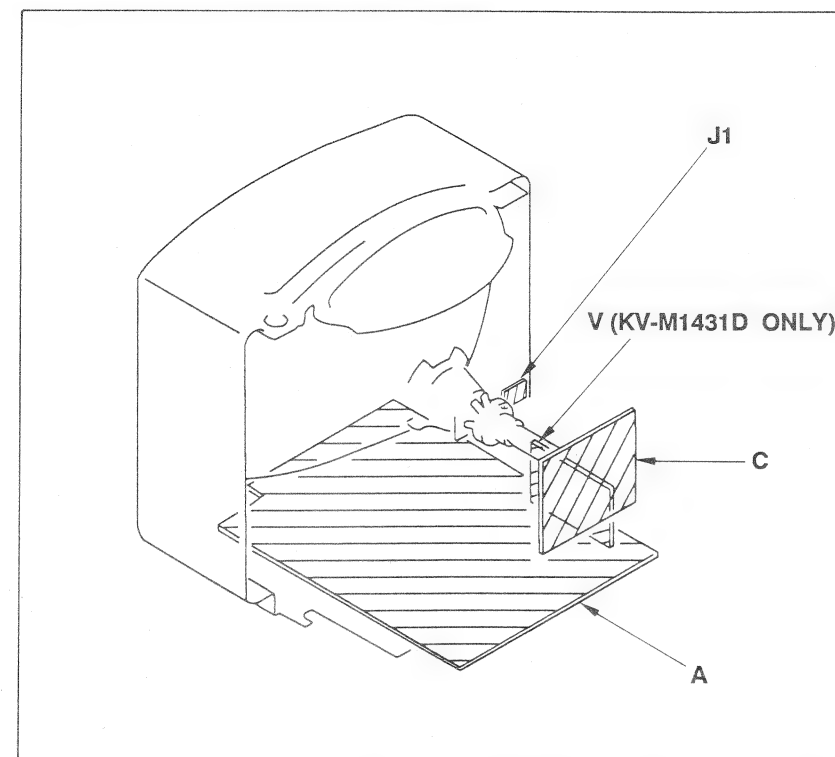


CHARACTER POSITION Adjustment [RV001]

1. Input a PAL COLOR BAR pattern.
2. Adjust RV001 to position the character display at the point indicated by the arrow below.



5-1. CIRCUIT BOARDS LOCATION









5-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
 $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{K}\Omega$
- Indication of resistance, which does not have one for rating electrical power, is as follows.



Pitch: 5 mm
Rating electrical power 1/4 W

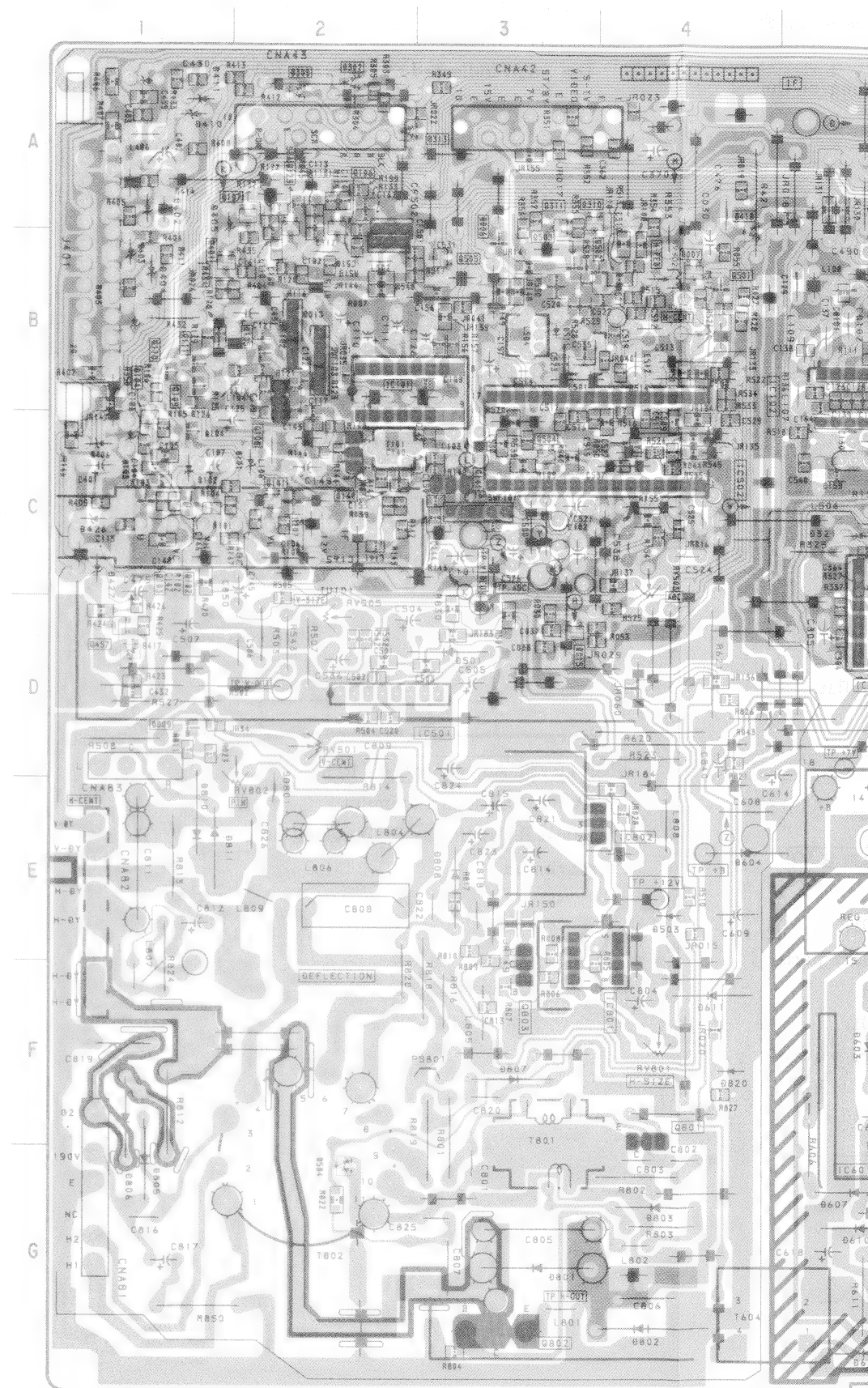
-  : nonflammable resistor.
-  : internal component.
-  : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
-  : earth-ground.
-  : earth-chassis.
-  : no mounted.

Note: The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

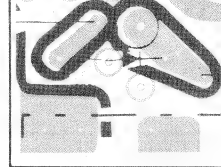
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a 10M Ω digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
-  : B+ bus.
-  : signal path. (RF)

[illegible]

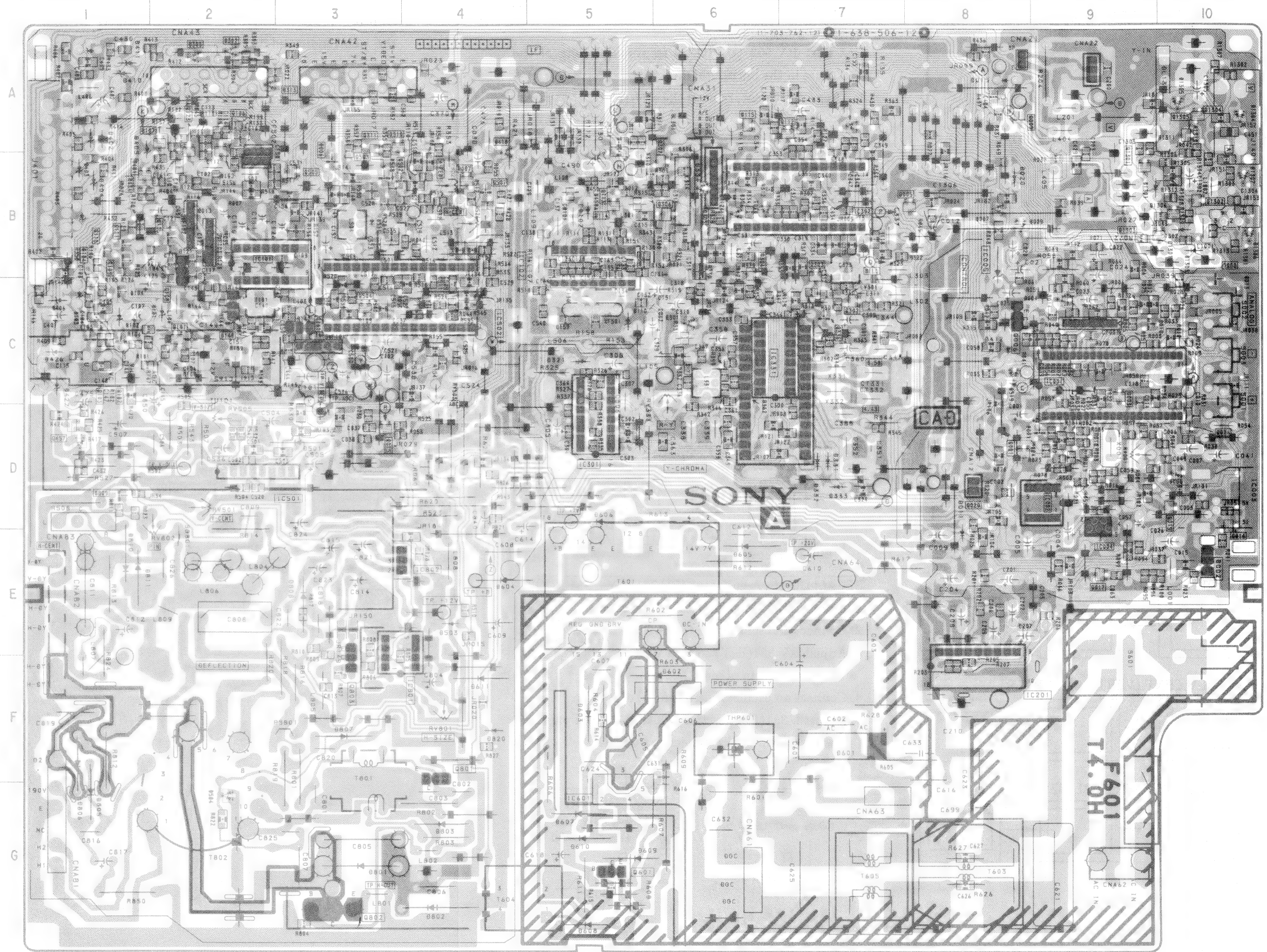
A [SYSTEM CONTROL, A/V OUT, H/V OUT, MEMORY, CHROMA]

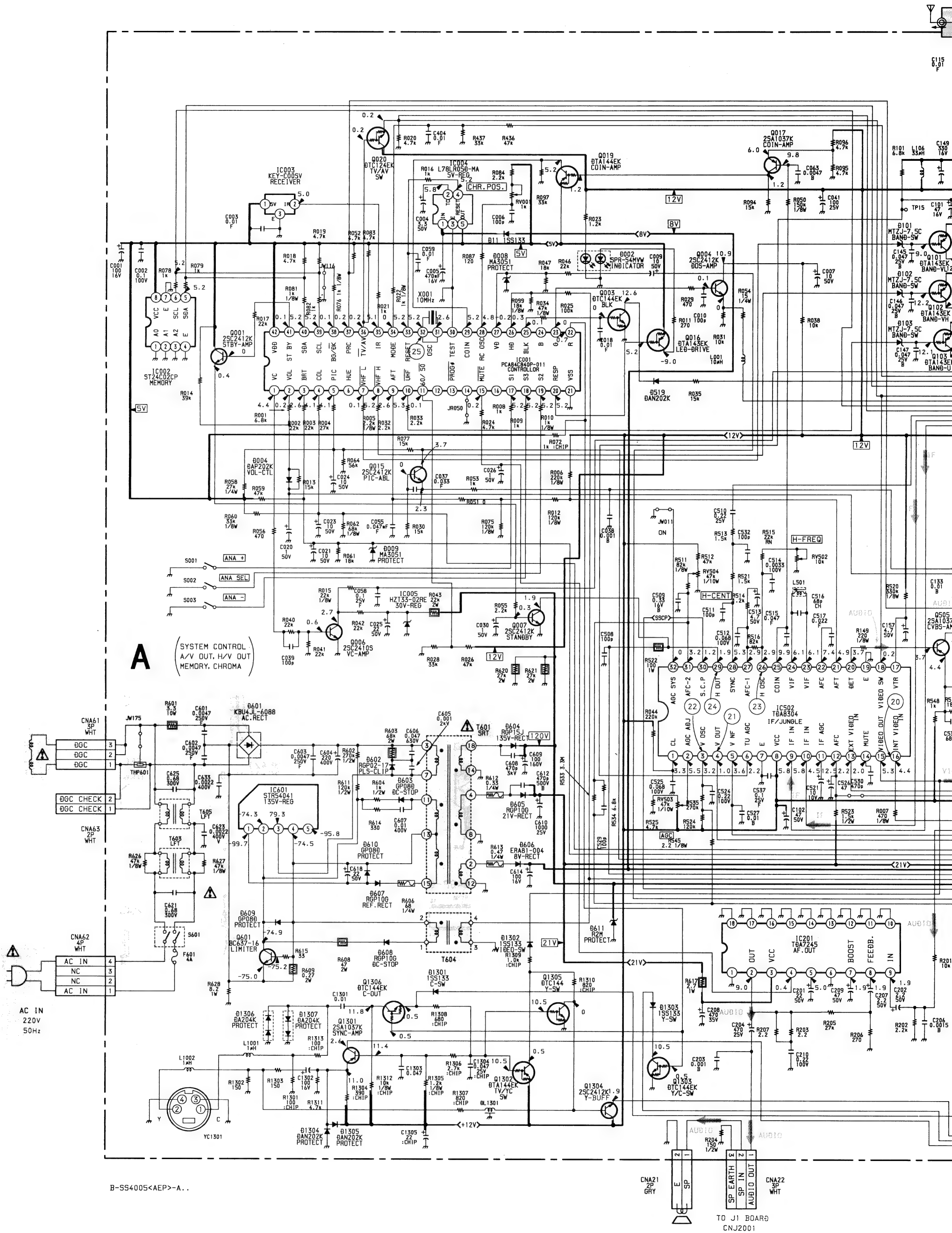


The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

- A Board -

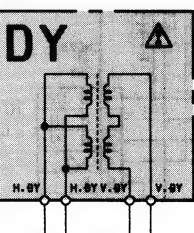
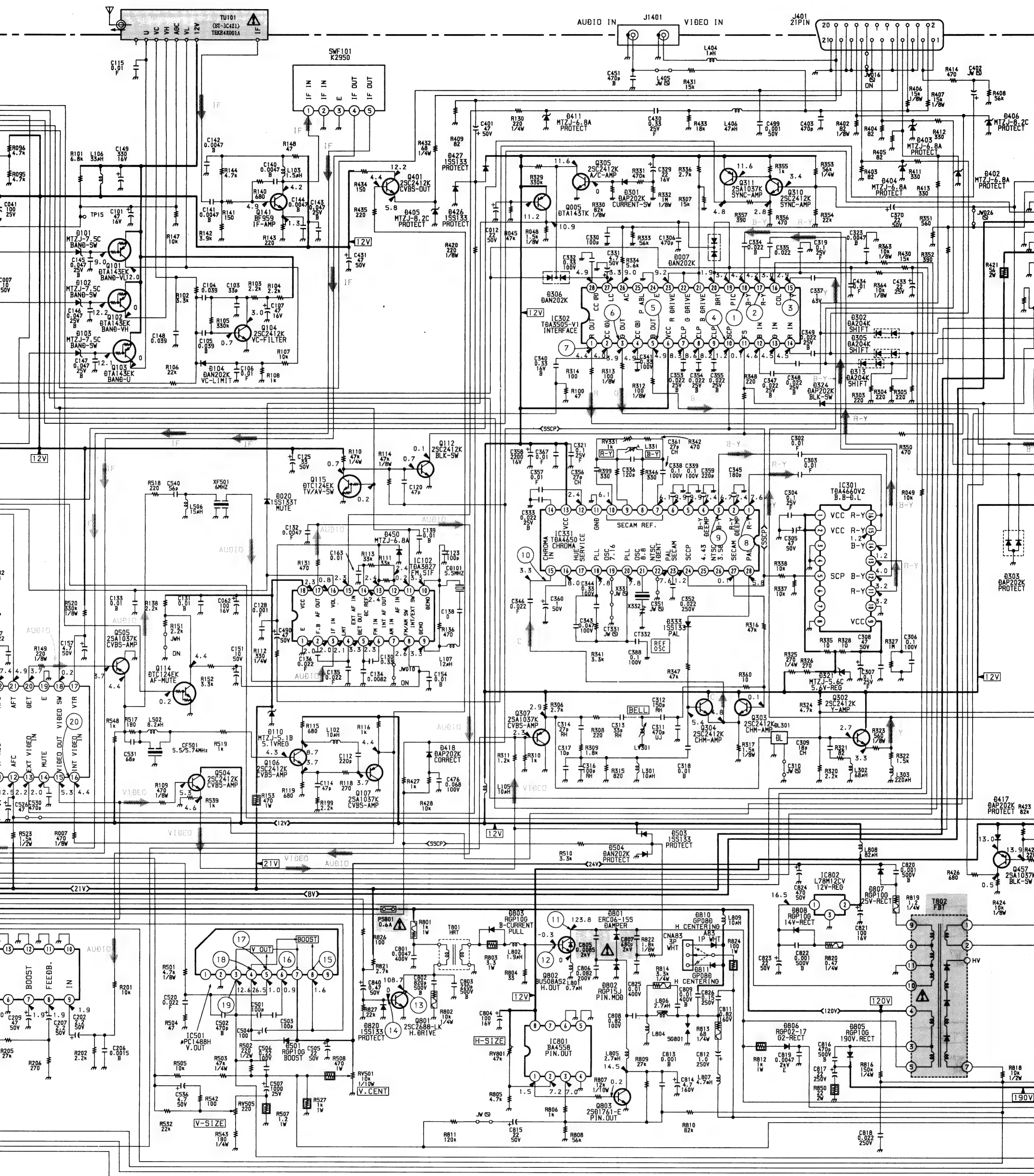
DIODE		DIODE		TRANSISTOR	
0002	E-10	01301	B-10	Q305	B-6
0004	C-9	01302	B-10	Q307	B-6
0007	B-8	01303	B-10	Q310	A-3
0008	0-10	01304	A-10	Q311	A-3
0009	B-8	01305	A-10	Q401	B-1
0011	E-8	01306	B-10	Q457	D-1
0020	B-8	01307	B-10	Q504	C-3
0110	C-5			Q505	B-3
0301	C-6	IC		Q601	G-5
0302	A-2			Q801	F-4
0303	B-6			Q802	H-3
0305	A-2			Q803	F-3
0306	B-6		C-9	Q1301	B-9
0313	A-3		0-9	Q1302	B-10
0321	C-5		0-10	Q1303	B-10
0324	A-7		E-9	Q1304	A-10
0334	B-6		B-8	Q1305	A-10
0402	A-1		B-5	Q1306	B-10
0403	B-1	IC201	F-8		
0404	B-1	IC301	D-5	VARIABLE RESISTOR	
0405	A-1	IC302	B-7		
0406	C-1	IC331	C-7		
0411	A-1	IC501	0-2		
0417	0-1	IC502	C-4		
0418	A-4	IC601	G-5		
0426	C-1	IC801	F-3		
0427	C-1	IC802	E-4		
0450	B-5				
0501	0-3				
0503	E-4	TRANSISTOR		TRIMMER	
0504	G-2				
0519	C-8		Q001		
0601	F-7		Q003		
0602	F-6		Q004		
0603	F-5		Q005		
0604	E-4		Q006		
0605	E-6		Q007		
0606	0-5		Q015		
0607	G-5		Q016		
0608	H-5		Q017		
0609	G-5		Q019		
0610	G-5		Q020		
0611	F-4		Q104		
0801	G-3		Q106		
0802	H-4		Q107		
0803	G-4		Q112		
0805	G-1		Q114		
0806	F-1		Q115		
0807	F-3		Q123		
0808	E-3		Q141		
0810	E-1		Q302		
0811	E-1		Q304		
0820	F-4				



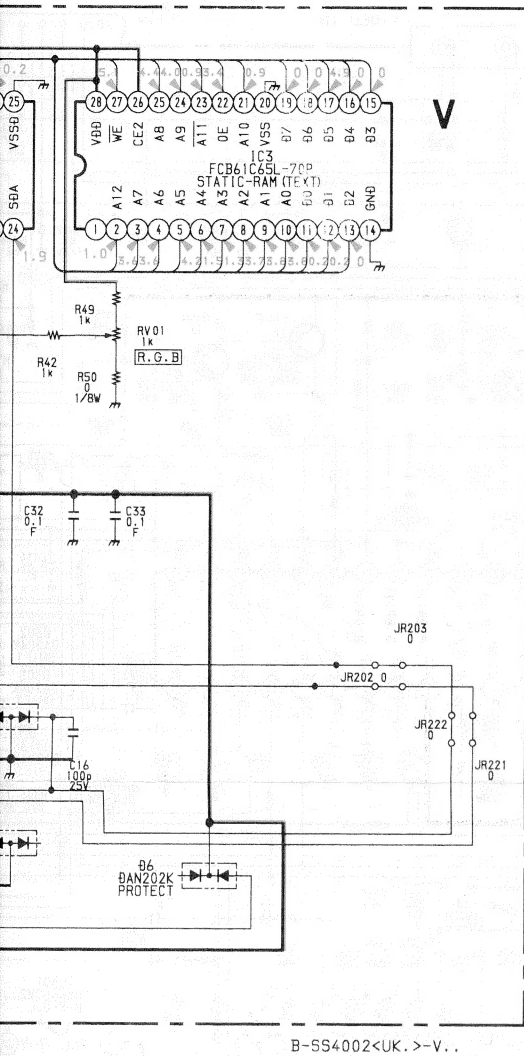


B-SS4005<AEP>-A..

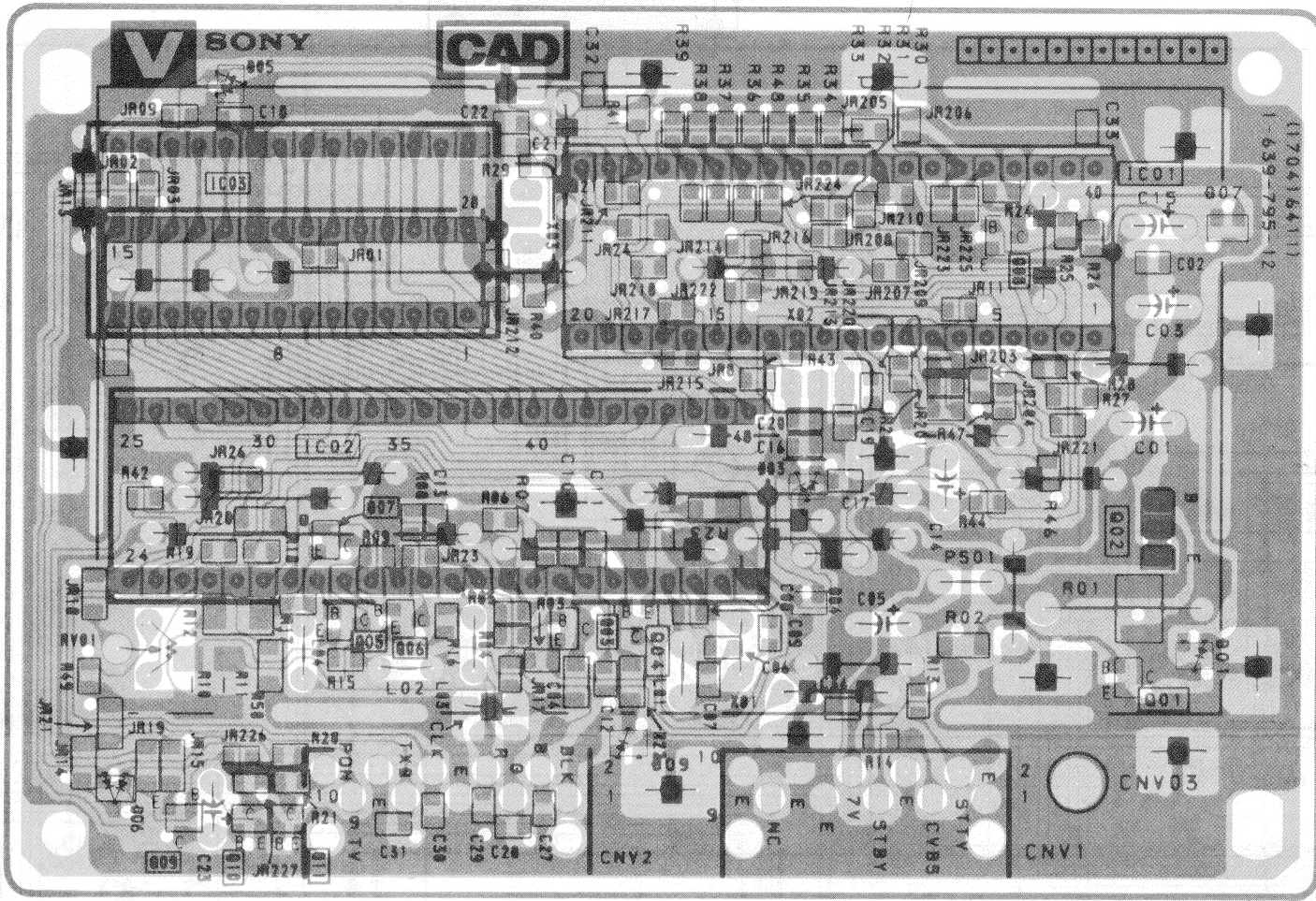
TO J1 BOARD
CNJ2001



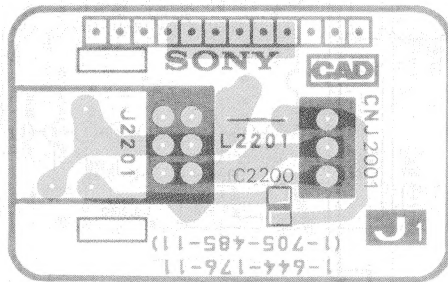
— V Board —



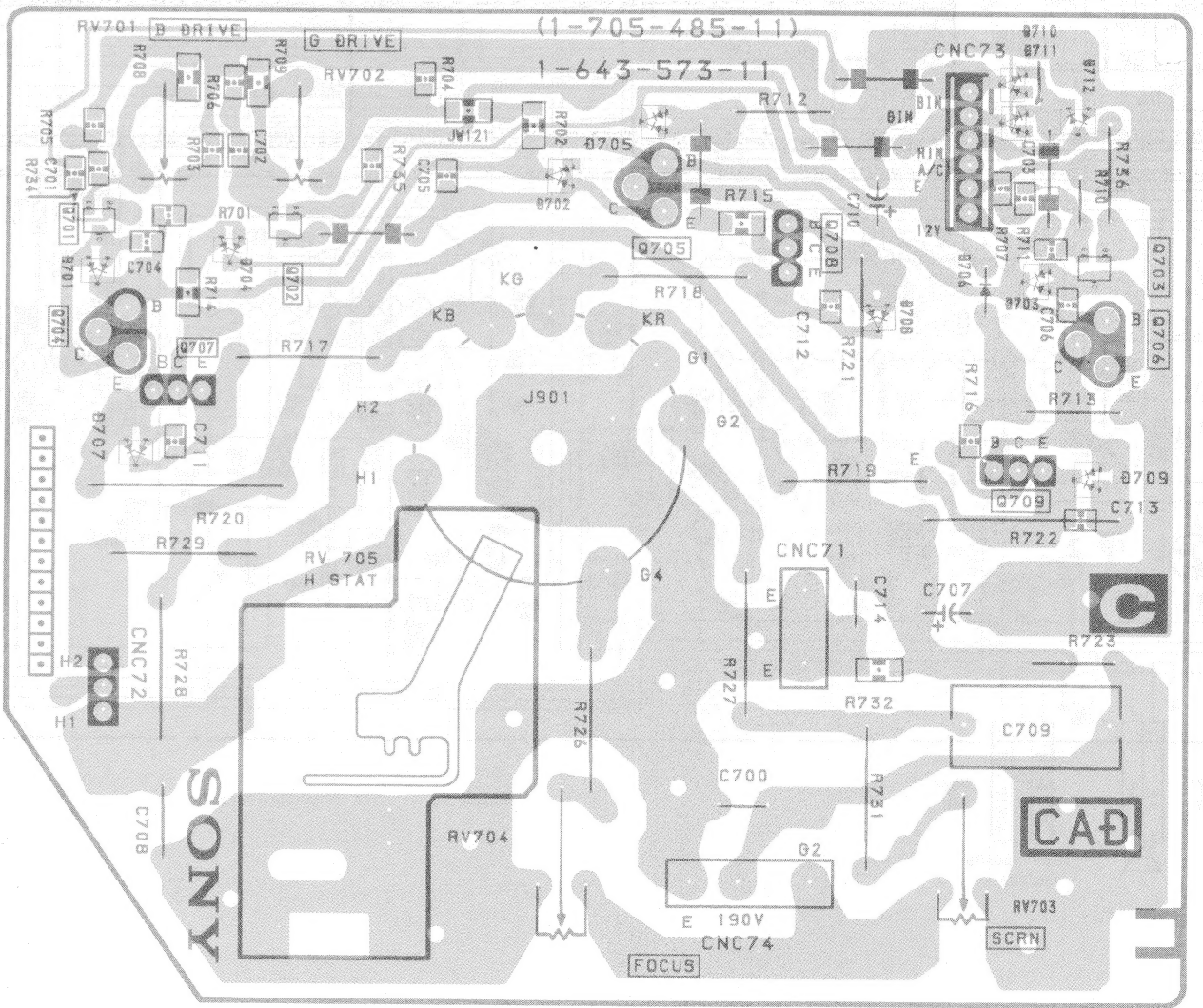
B-SS4002<UK.>-V..



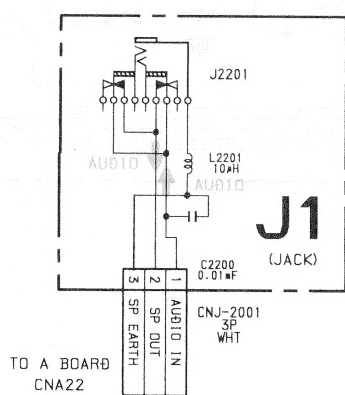
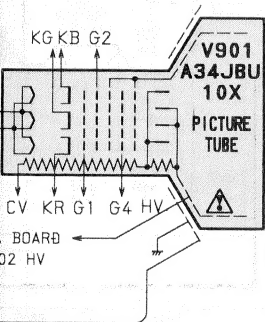
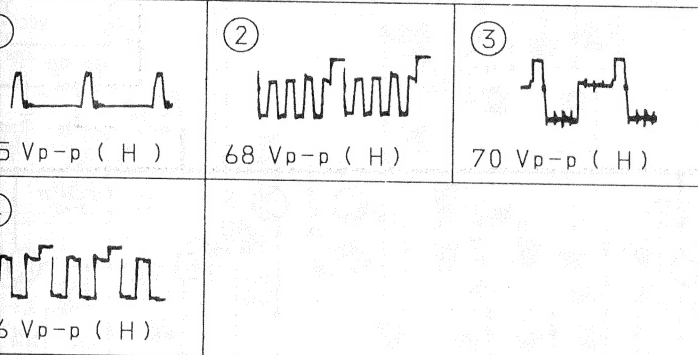
— J1 Board —



— C Board —



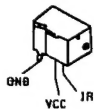
BOARD WAVEFORMS



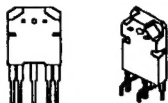
B-SS4002<UK.>-J1.

5-3. SEMICONDUCTORS

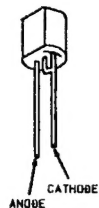
KEY-C00SV-F



STR54041



#PC574J



0TA114EK
 0TA143EK
 0TA143TK
 0TA144EK
 0TC114EK
 0TC124EK
 0TC144EK
 MMST2907A
 2SA1037K
 2SA1162G
 2SB1295-UL6
 2SC1623-L5L6
 2SC1623-L5L6
 2SC2412K
 2SC2712YG

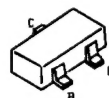
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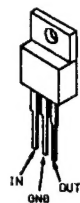
T0A3505-V1
 FCB61C65-70P
 T0A4650-V4



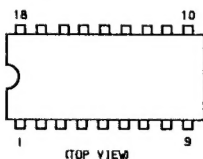
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MSF78M12L



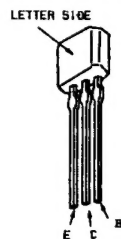
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 T0A7245



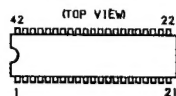
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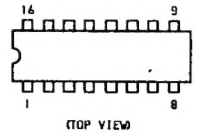
2SC2410SN



PCA84C840P-011



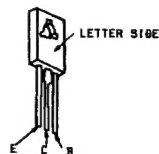
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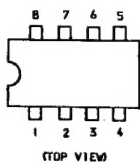
BF871



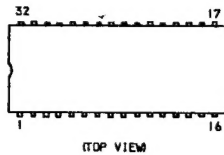
2SC2688-LK



RC4558P
 ST24C02CP



T0A8304



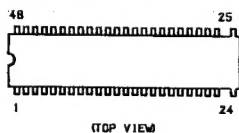
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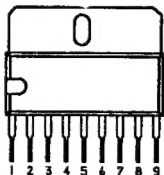
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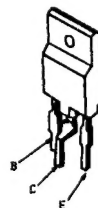
SAA5246P/E



#PC1488H



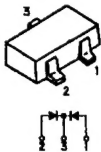
BU508AS2



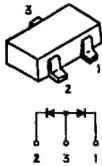
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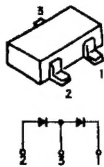
ØAN202K
MA152WK



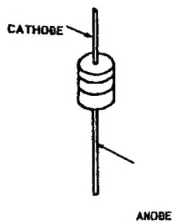
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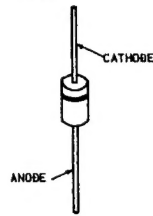
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1SS226



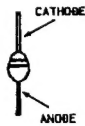
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RØ6.8ES-B2
RØ8.2ES-B3
1SS119
1SS133



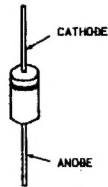
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R2M



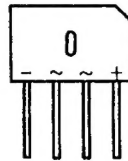
GP08Ø
U05G



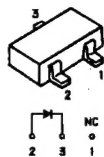
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RGP10G
RU-3AM



KBU4JL-6088
RBV-406H-01



MA3051
MA3056M
MA3068M
RØ5.1M-B2
RØ5.6M-B2
RØ6.8M-B2



SPR-54MVW

